



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/715,555

11/19/2003

Scott Patrick Campbell

M4065.0812/P812-A

5068

24998

7590

07/11/2008

DICKSTEIN SHAPIRO LLP  
1825 EYE STREET NW  
Washington, DC 20006-5403

EXAMINER

SELBY, GEVELL V

ART UNIT

PAPER NUMBER

2622

MAIL DATE

DELIVERY MODE

07/11/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/715,555	<b>Applicant(s)</b> CAMPBELL, SCOTT PATRICK	
	<b>Examiner</b> Gevell Selby	<b>Art Unit</b> 2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 26,27 and 32-47 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 41-43 is/are allowed.
- 6) ☒ Claim(s) 26,27,32,33,39,40,44-47 is/are rejected.
- 7) ☒ Claim(s) 34-38 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claim 26, 27, and 32-33, 39, 40, and 44-47 have been considered but are moot in view of the new ground(s) of rejection.
2. Applicant's arguments see the amendment, filed 4/2/08, with respect to the rejections of claims 34-38 and 41-43 have been fully considered and are persuasive. The 35 U.S.C 103 rejections of claims 34-38 and 41-43 have been withdrawn.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 32 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 32, the phrase "mesa-like" renders the claim(s) indefinite because the claim(s) include(s) elements not actually disclosed (those encompassed by "mesa-like", whether the likeness is in color, shape, size, or other feature of a mesa), thereby rendering the scope of the claim(s) unascertainable. See MPEP § 2173.05(d). In order to continue the examination of the claim, the term "mesa-like" will be omitted.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. **Claims 27, 32, 33, 39, 40, 44, and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimura, US 6,259,083.**

In regard to claim 27, Kimura, US 6,259,083, discloses an active pixel sensor system having an active pixel array, the system comprising:

a lensing element (see figure 2, element 21) configured to receive optical data and change an imaging characteristic, said lensing element providing cover for the active pixel array (see column 3, lines 33-42); and

a mounting structure (see figure 2, element 10) extending from a plate surface (see figure 2, element 8), said mounting structure being adapted to removably connect a prefabricated lens system (see figure 2, elements 11) to said plate above said lensing element (see column 3, lines 49-53: the color filter (10) serves as the mounting structure for the microlens 11 or lensing element and the flat surface of the high refractive index layer serves as the plate the lens is connected to through the color filter and the film, wherein it is inherent that since the microlens was attached to the color filter, it may also be removed).

In regard to claim 32, Kimura, US 6,259,083, discloses an assembly for an image sensor device, comprising:

an image sensor array (see column 3, lines 9-11: solid state imaging device 20);

a cover plate (see figure 2, element 8) operatively disposed over said image sensor array, said cover plate including an integrated lensing structure (see figure 2, element 21) which is developed to change imaging characteristics of incoming radiation which impinge towards said image sensor array (see column 3, lines 29-48: the high refractive index layer 8 serves as the cover plate and well-shaped dug structure 21 is a concave lens structure); and

a mounting structure (see figure 2, element 10) formed as a protrusion on a surface of said cover plate (see column 3, lines 52-53: the color filter 10 serves as a mounting structure for the microlens 11).

In regard to claim 33, Kimura, US 6,259,083, discloses the assembly as in claim 32, wherein said mounting structure is developed to hold a lens system including additional lensing structures (see figure 2, element 11).

In regard to claim 39, Kimura, US 6,259,083, discloses the assembly as in claim 32, wherein said integrated lensing structure forms a concave lens part (see figure 2, element 21).

In regard to claim 40, Kimura, US 6,259,083, discloses the assembly as in claim 32, wherein said integrated lensing structure forms a convex lens part (see figure 2, element 11).

In regard to claim 44, Kimura, US 6,259,083, discloses a method for controlling Petzval field curvature in a camera system, comprising:

contouring a cover plate (see figure 2, element 8) to form a lensing structure (see column 3, lines 29-48: the high refractive index layer 8 serves as the cover plate and well-shaped dug structure 21 is a concave lens structure);

securing a mounting structure (see figure 2, element 10) to an upper surface of said cover plate, said mounting structure being adapted to connect a lens system (see figure 2, element 11) to said cover plate above said lensing structure (see column 3, lines 52-53: the color filter 10 serves as a mounting structure for the microlens 11); and

covering an imaging array with said cover plate, said cover plate being located adjacent said imaging array in an optical path of said camera system (see figure 2, elements 2 and 8), whereby it is inherent the contoured plate of the Kimura reference controls the Petzval field curvature, since that is an effect of curving the plate.

In regard to claim 45, Kimura, US 6,259,083, discloses the method as in claim 44, wherein contouring the cover plate to form the lensing structure includes forming at least one of a refractive lens and a diffractive lens (see column 3, lines 33-48).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2622

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**8. Claims 26, 46, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura, US 6,259,083 in view of Iura et al., 5,847,756.**

In regard to claim 26, Kimura, US 6,259,083, discloses an image sensor camera system for converting optical data into digital image data, the system comprising:

an image sensor array having a plurality of sensors, said sensors operating to receive the optical data and integrate the data into electrical charge proportional to the amount of optical data collected with a particular period of time (see column 3, lines 9-11: solid state imaging device 20);

a lens system (see figure 2, elements 8, 11, and 21) operatively coupled to the image sensor array and configured to carry and focus the optical data onto the image sensor array, said lens system including a plurality of lenses (mircolens 11 and concave lens structure 21) and a cover plate (see figure 2, element 8), said cover plate contoured into a lensing structure (concave lens structure 21) that changes an imaging characteristic (see column 3, lines 27-52);

a mounting structure (see figure 2, element 10) extending from an upper surface of said cover plate and adapted to secure said lens system to said cover plate above said lensing structure (see column 3, lines 52-53: the color filter 10 serves as a mounting structure for the mircolens 11); and

The Kimura reference does not disclose comprising sensor electronics coupled to the image sensor array, and configured to receive the electrical charge, the sensor

electronics operating to convert the electrical charge received by the plurality of sensors into the digital image data. However, it is well known in the art have an image sensor coupled to sensor electronics.

Iura et al., 5,847,756, discloses an image sensor camera system with a lens system 101 an imager 103, and sensor electronics including an amplifier 104m an A/D converter 105 and a video signal processor 106 that produces digital still images (see column 7, line 57 to column 8, line 20).

It would have been obvious to one of ordinary skill in the art at the time of invention to have been motivated to modify Kimura, US 6,259,083, in view of Iura et al., 5,847,756, to have comprising sensor electronics coupled to the image sensor array, and configured to receive the electrical charge, the sensor electronics operating to convert the electrical charge received by the plurality of sensors into the digital image data, in order view the images on a display or to save to be viewed or processed at a later time.

In regard to claim 46, since Kimura, US 6,259,083 in view of Iura et al., 5,847,756, discloses an image sensor camera system and its operation, as described above in regard to claim 26, the method is also disclosed.

In regard to claim 47, Kimura, US 6,259,083 in view of Iura et al., 5,847,756, discloses the method as in claim 44. The Kimura reference discloses wherein contouring the cover plate to form the lensing structure includes forming at least one of a refractive lens and a diffractive lens (see column 3, lines 33-48).



*Allowable Subject Matter*

9. Claims 41-43 are allowed.
10. The following is a statement of reasons for the indication of allowable subject matter:  
  
In regard to claims 41-43, the prior art does not disclose an image sensor device with the combination of limitations specified in the claimed invention, specifically the limitations of:  
  
cover part includes a plate having a plurality of surfaces, at least one of the plurality of surfaces being contoured into a lensing element; and a mounting structure formed as a well-like depression in said plate and adapted to secure a prefabricated lens system to said cover part above said lensing element, as stated in claim 41.
11. Claims 34-38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

Art Unit: 2622

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gevell Selby whose telephone number is 571-272-7369. The examiner can normally be reached on 8:00 A.M. - 5:30 PM (every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on 571-272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

gvs

/Lin Ye/  
Supervisory Patent Examiner, Art Unit 2622